U.S. Department
Of Transportation

Crash·Stats

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National Highway Traffic Safety Administration

Speeding-Related Crash Fatalities By Month, Day, and Selected Holiday Periods

Summary

Speeding-related crash fatalities, as percentages of all fatalities, are highest in January and lowest in October. These percentages are also higher during holiday periods when compared to the overall percentage for the year. January 1 and July 4th were the two days with the most speeding-related crash fatalities.

Background

Speeding is a factor in about 30 percent of all fatal crashes. About 1,000 crash fatalities result from speeding-related motor vehicle traffic crashes every month. Factors examined in studies of speeding-related fatal crashes include time of day (evening hours between 3 p.m. and 3 a.m. versus daytime hours from 3 a.m. to 3 p.m.) and day of the week (weekdays versus weekends). Helpful information has been obtained [1].

As an effective measure to reduce speeding-related crash fatalities, identifying and estabishing a pattern of speeding-related crash fatalities by month and day is very useful. It is also interesting to investigate whether speeding is a factor contributing to the higher motor vehicle crash fatalities during six major holiday periods in the United States [2].

In this issue of Crash•Stats, the data of speeding-related motor vehicle crash fatalities by month, the days with the highest speeding-related crash fatalities, and six holiday periods over the 10-year period 1994-2003 are examined.

Method and Data

Descriptive statistics on highway speeding-related motor vehicle crash fatalities by month, day, and six holiday periods are presented. Data from the NHTSA Fatality Analysis Reporting System (FARS) for the period 1994-2003 are used in the analysis.

Results

When examined by month, the data clearly show that the patterns of speeding-related crash fatalities and total crash fatalities are very similar (figure 1). August and July are the two months with the highest total crash fatalities and speeding-related crash fatalities. However, when we examine the percentages of speeding-related crash fatalities to the total crash fatalities, they are highest in January and lowest in October.

Another significant feature is that the speeding-related crash fatalities, as percentages of total fatalities by month, show an overall downward trend from January to July, then an increase in August, another decrease to October and then an upward trend to December. The Cochran-Armitage trend test for this percentage shows that each of these trends is statistically significant: an overall downward trend from January to July (p-value <0.0001); a downward trend from August to October (p-value=0.0003); and, an upward trend from October to December (p-value=0.0032) are all statistically significant.

Figure 1
Total and speeding-related crash fatalities, and the percentage of speeding-related to the total by month. Source: FARS 1994-2003

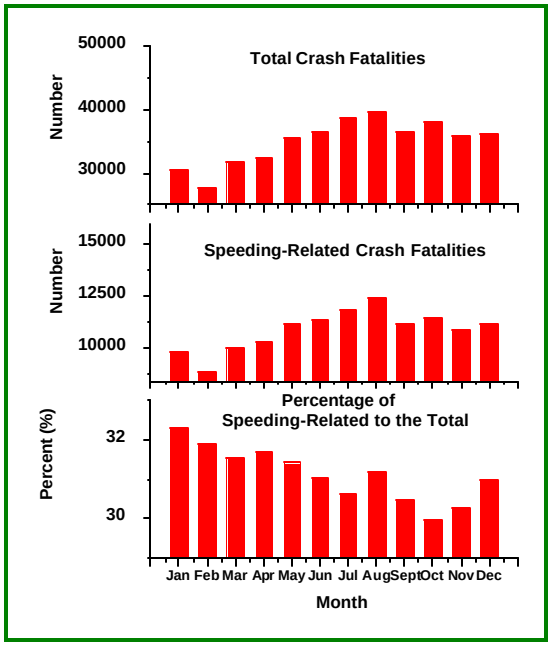

Table 1 shows the top 20 days with the highest speeding-related traffic crash fatalities for the period 1994-2003 (a cumulative total of 10 years' worth of fatalities). January 1 and July 4th were the two days with the most speeding-related motor vehicle crash fatalities. Note that among these 20 days, 7 days fell in August (summer vacation period).

Table 2 presents the speeding-related crash fatalities, total crash fatalities, and the percentage of speeding-related crash fatalities to the total fatalities during six major holiday periods†: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving, and Christmas. We see the percentages of speeding-related crash fatalities to the total during six holiday periods are almost all significantly higher when compared to the overall percentages of speeding-related fatalities to the total fatalities for the years between 1994 and 2003 (the bottom line in table 2). These results demonstrate that speeding-related crashes are one of the key factors contributing to the higher motor vehicle crash fatalities during six major holiday periods in the United States (other factors include higher VMT and alcohol use during holiday periods).

Table 1
Top 20 days with the highest speeding-related crash fatalities. Source: FARS 1994-2003

Rank	1	2	3	4	5	6	7	8	9	10
Day	Jan 1	Jul 4	Aug 12	Nov 23	Jul 3	Dec 26	Aug 4	Aug 31	May 25	Dec 23
Speeding-Related Crash Fatalities	521	519	466	461	458	455	455	446	446	446
Rank	11	12	13	14	15	16	17	18	19	20
Day	Aug 17	Dec 24	Aug 25	Sep 2	Aug 6	Aug 10	Sep 21	Jul 27	Sep 14	May 27
Speeding-Related Crash Fatalities	446	436	433	433	431	426	424	422	422	420

Table 2
Speeding-related crash fatalities during six holiday periods. Source: FARS 1994-2003

Holiday Period	Fatalities	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
New Year's Day	Speeding-related	141	142	178	72	219	138	171	134	210	70	1,475
	Total	372	392	420	192	545	354	469	357	575	219	3,895
	Percentage of total	*38*	*36*	*42*	*38*	*40*	*39*	*36*	*38*	*37*	*32*	*38*
Memorial Day	Speeding-related	193	178	185	197	138	183	156	190	188	181	1,789
	Total	482	483	514	511	393	500	466	515	494	479	4,837
	Percentage of total	*40*	*37*	*36*	*39*	*35*	*37*	*33*	*37*	*38*	*38*	*37*
July 4th	Speeding-related	178	219	202	179	169	176	219	64	234	184	1,824
	Total	519	661	629	508	479	509	717	207	685	514	5,428
	Percentage of total	*34*	*33*	*32*	*35*	*35*	*35*	*31*	*31*	*34*	*36*	*34*
Labor Day Day	Speeding-related	183	188	166	179	162	171	180	138	202	189	1,758
	Total	494	511	525	507	464	485	529	481	543	505	5,044
	Percentage of total	*37*	*37*	*32*	*35*	*35*	*35*	*34*	*29*	*37*	*37*	*35*
Thanksgiving	Speeding-related	212	198	218	210	205	168	187	217	210	202	2,027
	Total	575	527	588	571	602	581	509	590	551	560	5,654
	Percentage of total	*37*	*38*	*37*	*37*	*34*	*29*	*37*	*37*	*38*	*36*	*36*
Christmas	Speeding-related	152	129	66	183	134	193	155	210	60	198	1,480
	Total	455	358	167	480	364	485	442	604	131	513	3,999
	Percentage of total	*33*	*36*	*40*	*38*	*37*	*40*	*35*	*35*	*46*	*39*	*37*
Overall percentage of speeding-related crash fatalities to the total crash fatalities between 1994 and 2003												
Overall percentage for the year		*31*	*32*	*31*	*31*	*30*	*31*	*30*	*31*	*32*	*31*	*31*

† Refer to *Traffic Safety Facts 2002* for the definitions of six holiday periods (DOT HS 809 620). Note that for New Year's Day, July 4th, and Christmas holiday periods there is mixing of 1-day, 3-day and 4-day periods over the years.

[1] Cejun Liu, Chou-Lin Chen, Rajesh Subramanian, and Dennis Utter, *Analysis of Speeding-Related Fatal Motor Vehicle Traffic Crashes*, NHTSA Technical Report, DOT HS 809 839, June 2005.
[2] Cejun Liu, Chou-Lin Chen, and Dennis Utter, *Trend and Pattern Analysis of Highway Crash Fatality by Month and Day*, NHTSA Technical Report, DOT HS 809 855, March 2005.

For additional copies of this publication, please call 800-934-8517 or fax your request to 202-366-3189. For questions regarding the data reported in this publication, contact Cejun Liu [202-366-5354], Chou-Lin Chen [202-366-1048], or Dennis Utter [202-366-5351]. Thanks to Joseph Tessmer and Bill Swanson at OCCI for proofreading of this document. Internet users may access this publication and other general information on highway traffic safety at: www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html